

## "SQ" NOTES

BY R.A.HILSMANN

Another look back at one of the programs you have found here in SMUG BYTES. This time the RECOVER program will be updated. As I mentioned before, "Haste makes waste", this is still another good demonstration of it.

When I looked at the program at the time I thought it was ready for this column, I figured I covered it all, but I forgot to consider the folks with single sided drives. Sorry about that. This new version will take care of it, and cover some more quirks the old program had. This version will restore a disk so that it can be used again, of course you would loose any disk-space which has exited into another computer world, but if there is any diskspace left on the disk, one could again save/ to it.

Another area has been covered by John Olinger in his latest version of his operating system, namely an ERASE feature. If you have a corrupted program on the disk, you could either try to save that portion which is still intact with this program, or erase it from the disk using his new version.

What is RECOVER really designed to do, you may ask? Its major function is to restore the disk directory ones corrupted by either an accidental format process, which you have stoped just in time to leave some or all data otherwise intact, or if you have a bad program, which includes data as variables saved along with the program, you may now recover such variable data seperately. Maybe, it should work to some degree at least, even save uncorrupted portions of a program. How much good this would do is just speculation, but what does one have to loose? I am sure someone will try it in time.

1 REM FILL THIS LINE WITH SPACES

1  
2  
3  
TO HERE>4

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4 GO TO 10
5 BEEP .08,35: RETURN
10 REM
*****DISK RECOVER PROGRAM 1.3*****
* FOR SAFE DOS (SDOS) *
* ©1988 IMPEX SOFTWARE *
* FOR PUBLIC DOMAIN *
* BY R.A. HILSMANN *
*****  

15 LET A=0: PAPER A: INK 9: B0
RDER A: CLS : DIM A$(5121): DIM
B$(16): DIM C$(166,20): LET D$=""
": LET FL=A: LET O=A: LET T=10:
LET BP=5: GO SUB BP: PRINT AT T
,O;"Answer a few questions below"  

20 INPUT "Do you need to creat
e a new DiskDirectory on the dam
aged disk ?"//";Q$:
IF Q$="n" OR Q$="N" THEN LET FL
=1
25 INPUT "Are your drives dou
ble sided"//";S$:
LET K=CODE S$:
IF K>96 THEN LET K=K-3
2: LET S$=CHR$ K
30 CLS : GO SUB BP: PRINT AT T
,O;"Insert disk into drive of yo
ur choice and enter drive numbe
r below."
40 IF NOT FL THEN PRINT "Disk
will be processed to receive a
temporary directory"
50 GO SUB BP: INPUT "WHICH DRI
VE ?? (1 TO 4) ";K: LET /D=K-1
60 IF NOT FL THEN GO SUB BP: I
NPUT "ENTER NEW DISK NAME >";B$:
70 IF NOT FL THEN CLS : GO SUB
BP: PRINT AT T,O;"DISK WILL BE
PROCESSED NOW"/"PRESS ENTER WHE
N READY": PAUSE 0
80 CLS : GO SUB BP: PRINT AT T
,7: FLASH 1;"one moment please!"
: FOR /1 TO 167: LET C$(A,1 TO 1
0)="CYL # "+STR$ A+" ":" LET C$(
A,11 TO )=CHR$ 3+CHR$ 0+CHR$ 20
+"Vh CLS "+CHR$ 24+CHR$ 0+CHR$ 0
+CHR$ 1
90 IF A=1 THEN LET C$(A,19)=CH
R$ 1
100 NEXT : LET K=1: GO SUB 150
105 IF CODE S$<68 THEN GO TO 12
5
110 FOR X=2 TO 167 STEP 2: LET
C$(X,18)=CHR$ K: LET C$(X+1,18)=
CHR$ K: LET K=K+1: NEXT X
120 FOR X=3 TO 167 STEP 2: LET
C$(X,19)=CHR$ 255: NEXT X: GO TO
130
125 FOR X=1 TO 167: LET C$(X,18)
=CHR$ K: LET C$(X,19)=CHR$ 0: L
ET K=K+1: NEXT X
130 LET C$(168,1)=CHR$ 128: IF
FL THEN GO TO 190
140 GO TO 180
150 RESTORE 160: FOR X=26715 TO
26834: READ A: POKE X,A: NEXT X
: RETURN
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160 DATA 205,10,0,237,176,205,1
42,10,223,42,75,92,17,19,20,25,1
7,16,38,1,16,0,24,232,42,75,92,1
7,43,20,25,17,32,38,1,13,13,24,2
17,42,75,92,17,12,0,25,17,0,62,1
0,20,237,176,201,42,75,92,17,12
0,25,1,0,20,62,229,237,161,32,2
52
170 DATA 237,161,32,248,237,161
200,24,243,42,75,92,17,11,20,25
1,0,20,62,13,237,169,200,24,251
42,75,92,17,11,20,1,0,20,25,62
229,237,169,40,252,62,0,237,169
192,24,251
180 RANDOMIZE USR 26739: RANDOM
IZE USR 26724
190 LET DR=0: LET PR=0: LET LEN
GTH=0: CLS : GO SUB BP: PRINT AT
5,0;"DAMAGED DISK WILL BE CHECK
ED" FOR INTACT DATA NOW, PLEAS
E FOLLOW THE PROMPTS": ."PRES
S ENTER WHEN READY": PAUSE 0: LE
T NEXT=1
200 ON ERR GO TO 290
210 GO SUB 470: LET Z=Z+12: FOR
X=NEXT TO 167: LET FL=1: LET CY
L=X: PRINT AT 0,25;"CYL ";X: LET
D$="CYL # "+STR$ X: LOAD /D$COD
E Z: IF CODE A$(1)=229 AND CODE
A$(5120)=229 THEN GO SUB BP: LET
FL=0: CLS : PRINT AT T,0;"CYLIN
DER ";X;" IS NOT RECOVERABLE"
" OR THIS IS THE END OF DATA ON
THIS DISK" ."PRESS ZERO (0) TO R
ESTORE DISK OR EXIT PROGRAM"
" OR ANY OTHER KEY TO CONTINUE":.
PAUSE 0: IF INKEY$="0" THEN GO T
O 490
220 IF NOT FL THEN NEXT X
230 CLS : GO SUB BP: PRINT AT T
0;"CYLINDER ";X;" IS LOADED NOW
" ."PRESS KEY TO VIEW DATA": PA
USE 0
240 CLS : RANDOMIZE USR 26754:
GO SUB BP: PRINT AT 20,0; INVERS
E 1;"PRESS (P) TO VIEW IN DATA F
ORMAT ONE (1) TO VIEW NEXT CYLIN
DER ";#0;"PRESS ZERO (0) TO RES
TORE DATA": PAUSE 0: IF INKEY$=
"1" THEN GO TO 280
250 IF INKEY$="P" OR INKEY$="p"
THEN LET FL=0: CLS : PRINT #0;"P
PRESS ZERO (0) TO RESTORE DATA"
: FOR S=1 TO 5120: ON ERR GO TO
300: PRINT A$(S): IF INKEY$="1"
THEN GO TO 280
260 IF INKEY$="0" THEN GO TO 31
0
270 IF NOT FL THEN NEXT S
280 LET FL=0: NEXT X: STOP
290 ON ERR RESET : NEXT X
300 IF NOT FL THEN ON ERR RESET
: NEXT S
310 ON ERR RESET : LET FL=0: CL
S : GO SUB BP: PRINT AT 3,0;"WHA
T KIND OF DATA IS IT ?" ./"1) BA
SIC" ./"2) NUMERIC DATA" ./"3) ST
RING DATA" ./"4) MACHINE CODE" ./
"5) STATE OF MACHINE" ./"6) VARI
ABLES" ./"7) PART OF PREVIOUS DAT
A" ./"8) RESTORE PREV. DATA SEPE
RATELY": LET P=K: INPUT K: IF K=
8 THEN LET FL=1: LET K=P
315 IF K<7 THEN LET LENGTH=0: L
ET PROG=0: LET CL=1: IF NOT FL T
HEN LET DR=DR+1

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316 IF FL THEN LET X=X-1: PRINT
AT 0,25;"CYL ";X: GO SUB 470: L
ET Z=Z+12: LET D$="CYL # "+STR$ X
: LOAD /D$CODE Z
320 IF K=5 THEN GO TO 400
325 IF P<7 AND K=7 THEN LET PR=
P
330 CLS : LET A=USR 26770: LET
A=5120-A
340 IF A>0 THEN PRINT "" TOTAL
BYTES SAVED=";A+LENGTH: GO TO 3
60
345 IF FL THEN GO TO 360
350 IF NOT FL AND A<0 THEN LET
CL=CL+1: PRINT AT 0,25;"CYL ";X
+1: LET LENGTH=LENGTH+LEN A$-1:
LET X=X+1: GO SUB 470: LET Z=Z+1
2: LET D$="CYL # "+STR$ X: LOAD
/D$CODE Z: GO TO 240
360 IF PR AND K=7 THEN LET K=PR
: LET PR=0
370 IF K=1 THEN LET N=USR 26795
: PRINT "" PROGRAM LENGTH=";N+LE
NGTH+1;" BYTES": LET PROG=N+LENG
TH+1: GO TO 400
380 IF K>1 THEN LET N=USR 26812
: PRINT "" DATA LENGTH=";N+LENG
TH+1;" BYTES": LET PROG=N+LENGTH
+1: GO TO 400
390 NEXT N: STOP
400 LET D$=CHR$ (K-1): IF K=1 T
HEN LET D$=D$+CHR$ (PROG-256+INT
(PROG/256))+CHR$ (INT (PROG/256
))+CHR$ 0+CHR$ 64+CHR$ (PROG-256
+INT (PROG/256))+CHR$ (INT (PROG
/256))+C$(CYL,18 TO 19)+CHR$ CL:
LET C$(DR,11 TO 20)=D$: LET NEX
T=CYL+CL
410 IF K=2 OR K=3 OR K=4 OR K=6
THEN LET D$=D$+CHR$ (PROG-256+I
NT (PROG/256))+CHR$ (INT (PROG/2
56))+CHR$ 0+CHR$ 128+C$(CYL,16 T
O 19)+CHR$ CL: LET C$(DR,11 TO 2
0)=D$: LET NEXT=CYL+CL
420 IF K=5 THEN LET D$=D$+CHR$ 0+CHR$ 194+CHR$ 0+CHR$ 62+CHR$ 2
30+CHR$ 4+C$(CYL,18 TO 19)+CHR$ T:
LET C$(DR,11 TO 20)=D$: LET C
L=T: LET NEXT=CYL+CL
425 IF FL THEN GO TO 510
430 GO SUB 500: GO TO 200
440 LET DR=DR+1: LET C$(DR,1)=C
HR$ 128
450 RANDOMIZE USR 26739: CAT
460 STOP
470 LET Z=PEEK 23627+256*PEEK 2
3628: RETURN
480 GO TO 5
490 ON ERR RESET : IF CYL>0 THE
N CLS : PRINT AT T,0;"DO YOU WIS
H TO HAVE DIRECTORY RESTORED ?"
(Y/N)": PAUSE 0: IF INKEY$="Y"
OR INKEY$="y" THEN GO TO 440
495 STOP
500 GO SUB 480: PRINT #0;"PRESS
ANY KEY TO CONTINUE": PAUSE 0:
RETURN
510 LET FL=0: CLS : PRINT AT T
0;"LOADING LAST DATA VIEWED": G
O SUB 500: GO TO 200

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Thats all folks! Now if you have never entered the program, just do it. For those who have entered it previously, you may just update the program line by line. I dont know which would be easier. Now as how to to use the RECOVER program?

Practice makes perfect! Copy a disk with data on it, then CAT the disk using; OPEN# 2,"P", this will dump the catalog to the printer. Dont forget to CLOSE# 2, after your done. This printout will help you when restoring the disk. Load RECOVER, and insert the copied disk into a drive, run the program following the prompts.

After the first CYL has loaded, press <enter> as prompted, and since you know whats on the disk, press "0" to recover! This will get you to a menu, which will ask you what type of data it is, just enter the number for the type data, even if the program is larger than 1 cyl.

Now load the next cylinder, press "0" again, and if the next cylinder was part of the first section, enter "7" for "Part of previous data". Naturally you should perhaps have a look at the data as it is loaded, so that you will recognize data like it in the future.

After you have stepped through all the data on the disk you will be asked if you wish to restore the directory, enter "Y" for yes, and the new directory should be on the disk now, the program will catalog the disk now, to make sure.

Program names will be CYL # 1 etc. just change the names using RESTORE/ "CYL # 1" to "NEW NAME". After you'r done the disk should be restored to its previous state.

As the program loads individual cylinders the program will display in the upper right corner of the screen "CYL #", where # is the number of the cylinder being loaded. This is it, nothing to it.

Now something else, sometime in the past I said; "I used all the memory up in the MENU LOADER!" You did not really believe me, did you? Well here is the latest version, it features PAGING, forward and backwards, now don't you think this calles for a reprint?

That's what Bud Dankert thought at least, he came over the other day and probably thought he did not see right when he looked at the screen. I think this should do it for a while though, geeeze there is only so much a guy can do with 1.4K "Write it all in machine code"!!?? come on guys, remember the days of the ZX81 or the 1000? How much time we spend then to load a program!

How fast one forgets! "The good old days", wonder if there is still someone out there using the darn thing? By the way, my thanks to all the readers of SMUG BYTES for all the nice letters you had send me. It really encourages a guy to keep on writing. This Newsletter must really get around, I get mail from all corners of the US. Keep it up, I like it.

While your at it though, give me some hints of what kind of articles or software you would like to see here, one of these days I will run out of ideas, most unlikely the XYL would probably say. Oh, "XYL" stands for "ex young lady", that's what we call wifes in Amateur Radio Circles ("Ham Radio" for all of you who don't know what Amateur Radio means), just kidding.

Well this should be it, hope all of you don't mind a few reprints? For the next issue of this Newsletter I hope to have VU-Calc ready, almost forgot about that one. Hope it is still worth the effort, I have the feeling everybody is in to QL'ing nowadays.

Have fun your #3 (Rudy).



*"Then when he empties the in-basket, he's rewarded with a paycheck. . ."*